

REMARKS

Reconsideration of this application is respectfully requested.

Claim 1 is directed an intermediate steering column which includes a first shaft pivotally attached to a first U-joint. A second shaft is drivingly connected to the first shaft and has a slip joint connection with the first shaft. A second U-joint is pivotally attached to the second shaft. The first shaft includes first and second shaft parts and a reusable quick disconnect joint between the first and second parts permitting disconnection of the first and second parts without relative axial movement between the first and second shaft parts. The reusable quick disconnect joint enables pivoting of the first shaft part relative to the first U-joint to a first out of the way position and pivoting of the second shaft and second shaft part relative to the second U-joint to a second out of the way position without relative axial movement between the first and second shaft parts.

Claim 1 defines over the patent to Peterson, et al. (5,732,600) by setting forth:

1. A reusable quick disconnect joint between the first and second shaft parts,
2. A reusable quick disconnect joint which permits disconnection of the first and second shaft parts without relative axial movement between the first and second shaft parts.

These features are not found in the patent to Peterson, et al.

The patent to Peterson, et al discloses a joint or connector assembly 54 (Fig. 5) which is not a reusable quick disconnect joint. In order to disconnect the joint of Peterson, et al., a nut 150 must be removed from a bolt 144. Once this has been done, the nut and bolt can be separated from the joint. However, the joint is still

held in place by a cylindrical sleeve 152. The cylindrical sleeve 152 has been colored red in Exhibit A.

Once the nut and bolt have been removed from the joint, the sleeve 152 prevents disconnection of the joint 54. Thus, the patent to Peterson, et al. states:

If, for some unforeseen reason, the nut 150 should become disconnected from the bolt 144 and the bolt should fall out of the sleeve 152, the sleeve will retain the upper section 48 and extension section 50 against axial movement relative to each other. Therefore, in the unlikely event that the bolt 144 and nut 150 should become disconnected, the upper section 48 and extension section 50 of the shaft will remain interconnected by the sleeve 152. (Column 8, lines 49 – 56) (Emphasis Added).

Thus, once the nut and bolt 144 and 150 have been disconnected, it is necessary to remove the sleeve 152. Removal of the sleeve 152 will require destruction of the sleeve by cutting or some other manner.

In summary, the joint 54 is not a reusable quick disconnect joint. This is because disconnection of the joint 54 requires removal of the nut 150, bolt 144 and removal of the sleeve 152. In order to remove the sleeve 152 (colored red in Exhibit A) the sleeve must be destroyed in order to separate opposite end portions 172 and 176 of the sleeve from the shafts. Therefore, the joint 54 of Peterson, et al. is not a reusable quick disconnect joint which facilitates repair of a steering column. The joint 54 of Peterson, et al. can not be reused because the sleeve 152 is destroyed. The joint 54 of Peterson, et al. is not a quick disconnect joint because the time required to destroy the sleeve 152 in order to disconnect the joint prevents a disconnection from being quickly accomplished.

In addition, claim 1 defines over the prior art, particularly the patent to Peterson, et al. (5,732,600), by setting forth the quick disconnect joint as permitting disconnection of the first and second shaft parts without axial movement between the first and second shaft parts. In the patent to Peterson, et al., the upper section 48 and extension section 50 must be moved axially relative to each other in order to disconnect the two shaft parts. The manner in which the upper section 48 and extension section 50 are moved axially relative to each other to disconnect the joint 54 is, to some extent at least, illustrated in Fig. 3 of the patent. It is impossible to disconnect the shaft assembly 38 at the joint 54 without effecting axial movement between the upper section 48 and extension section 50.

Claims 2 through 10 depend from claim 1 and define over the prior art for substantially the same reasons as does claim 1 and by virtue of the structure and function set forth in these claims taken in combination with the structure and function of claim 1. Specifically, claim 2 sets forth the first shaft part as engagable with a first surface extending parallel to longitudinal axis of the first shaft part and engagable with a second shaft part extending parallel to the first surface.

Claim 3 depends from claim 2 and sets forth the quick disconnect joint as including a fastener which extends through the first and second surfaces.

Claim 4 depends from claim 1 and sets forth the second shaft part and including a tubular end into which the first shaft part extends.

Claim 5 depends from claim 4 and sets forth the quick disconnect joint as including the fastener which extends through the tubular end of the second shaft part and the first shaft part.

Claim 6 depends from claim 1 and sets forth the quick disconnect joint as including a bolt extending through the first and second shaft parts and a nut threadably engaging a bolt.

Claim 7 depends from claim 6 and sets forth a second bolt extending through the first and second shaft parts and a second nut threadably engaging a second bolt.

Claim 8 depends from claim 1 and sets forth the first U-joint as being located at least in part on a side of the firewall opposite the passenger compartment of a vehicle. The first shaft being for location at least in part on the side of the firewall opposite from the passenger compartment.


Claim 9 depends from claim 1 and sets forth the fastener as being releasable and, when released, permits disconnection of the first and second shaft parts.

Claim 10 depends from claim 1 and sets forth the quick disconnect joint as not being destroyed during disconnection.

In view of the foregoing remarks, it is believed that the claims in this application clearly and patentably define over the prior art. Therefore, it is respectfully requested that the claims be allowed and this application passed to issue.

If for any reason the Examiner believes that a telephone conference would expedite the prosecution of this application, it is respectfully requested that the Examiner call applicant's attorneys in Cleveland, Ohio at 621-2234, area code 216. Please charge any deficiency in the fees for this application to our Deposit Account No. 20-0090.

Respectfully submitted,


Thomas L. Tarolli
Reg. No. 20,177

CUSTOMER NUMBER: 26,294

TAROLLI, SUNDHEIM, COVELL, & TUMMINO L.L.P.
526 Superior Avenue, Suite 1111
Cleveland, Ohio 44114-1400
Phone: (216) 621-2234
Fax: (216) 621-4072

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